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**A CM-BASED PREVENTION MODEL FOR IS PROJECTS
IMPLEMENTATION FAILURE IN MALAYSIAN
GOVERNMENT HOSPITALS**



NOORHAYATI BT MD JASIN

**MASTER OF SCIENCE (INFORMATION TECHNOLOGY)
UNIVERSITI UTARA MALAYSIA
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ABSTRAK

Hospital kerajaan di Malaysia telah menggunakan sistem maklumat (IS) sebagai pemangkin dalam menyediakan perkhidmatan yang lebih baik kepada orang ramai. Walau bagaimanapun, sebahagian daripada pelaksanaan IS menghadapi pelbagai cabaran seperti rintangan pengguna untuk berubah, pengguna tidak sedar betapa pentingnya sistem berkenaan, dan kekurangan sokongan dan pemantauan daripada pengurusan pertengahan dan pengurusan atasan. Akibatnya, ia gagal dilaksanakan dengan jayanya. Kajian awal mendapati tiada garis panduan dalam melaksanakan IS di hospital kerajaan di Wilayah Utara Malaysia. Oleh itu, kajian ini mengkaji faktor kegagalan pelaksanaan IS di hospital dan membina model pencegahan yang menggabungkan Pengurusan Perubahan (CM). Satu kajian literatur dan temu bual telah dijalankan. Faktor Kegagalan Kritikal (CFFs) pelaksanaan projek IS dan tiga model CM (model CM Lewin, model CM Kotter dan model ADKAR Prosci) telah dikenalpasti. Personel utama yang mewakili pengurusan tertinggi, pengamal IT dan pengamal perubatan daripada empat hospital kerajaan yang terpilih di Wilayah Utara Malaysia terlibat dalam pengumpulan data. Model pencegahan yang berasaskan CM telah dibangunkan berdasarkan CFFs yang telah dikenalpasti dan tiga model CM. Teknik Delphi digunakan untuk menilai model yang dicadangkan, melibatkan pakar domain dari hospital yang dipilih. Tiga puluh enam CFFs telah dikenalpasti yang dikategorikan kepada empat kategori utama; isu manusia, isu teknologi dan infrastruktur, limitasi perisian, dan isu sokongan. Model pencegahan yang dicadangkan dibahagikan kepada tiga sub-fasa Pelaksanaan; Pra-Pelaksanaan, Semasa-Pelaksanaan dan Pasca-Pelaksanaan. Model yang dicadangkan diyakini dapat memberi manfaat kepada pengurusan tertinggi, pengamal IT dan pengamal perubatan bagi mencegah kegagalan pelaksanaan projek IS di hospital kerajaan di Malaysia.

Kata kunci: projek IS, kegagalan pelaksanaan, model pencegahan, Pengurusan Perubahan, Faktor Kritikal Kegagalan (CFFs)

ABSTRACT

Malaysian government hospitals have adopted information system (IS) as an enabler in providing a better service to public. However, some of the IS implementations are facing many challenges such as users' resistance to change, users did not realize the importance of the system, and lack of support and monitoring from the middle managers and top management. Consequently, it failed to be implemented successfully. Preliminary studies revealed that there is no guideline for IS implementation in government hospitals in Northern Region of Malaysia. Hence, the study investigates the failure factors of IS implementation in hospital and construct a prevention model which incorporates Change Management (CM). An extensive literature review and interviews have been conducted. Critical Failure Factors (CFFs) of IS projects implementation and three CM models (Lewin's CM model, Kotter's CM model and Prosci's ADKAR model) have been identified. Key persons representing top management, IT practitioners and medical practitioners from four selected government hospitals in Northern Region of Malaysia were involved in data collection. A CM-based prevention model was constructed based on the identified CFFs and three CM models. Delphi technique was used to evaluate the proposed model, involving domain experts from the selected hospitals. Thirty-six CFFs have been discovered which have been categorized into four main categories; human issues, technology and infrastructure issues, software limitations, and support issues. The proposed prevention model is divided into three sub-phases of Implementation; Pre-Implementation, During-Implementation, and Post-Implementation. The model is believed to be beneficial for top management, IT practitioners and medical practitioners in preventing IS implementation failure among government hospitals in Northern Region of Malaysia.

Keywords: IS projects, implementation failure, prevention model, Change Management, Critical Failure Factors (CFFs)

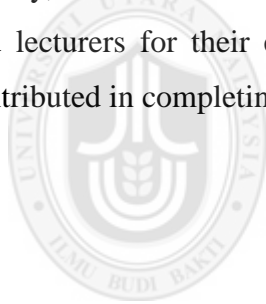
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TABLE OF CONTENTS

Permission to Use.....	ii
Abstrak	iii
Abstract	iv
Acknowledgement.....	v
Table of Contents	vi
List of Tables.....	viii
List of Figures	ix
List of Appendices	x

CHAPTER ONE: INTRODUCTION 1

1.1 Overview of the Study.....	1
1.2 Problem Statement	2
1.3 Research Questions	7
1.4 Research Objectives	7
1.5 Scope of the Study.....	8
1.6 Significance of the Study	9
1.7 Contributions	10
1.8 Summary	10

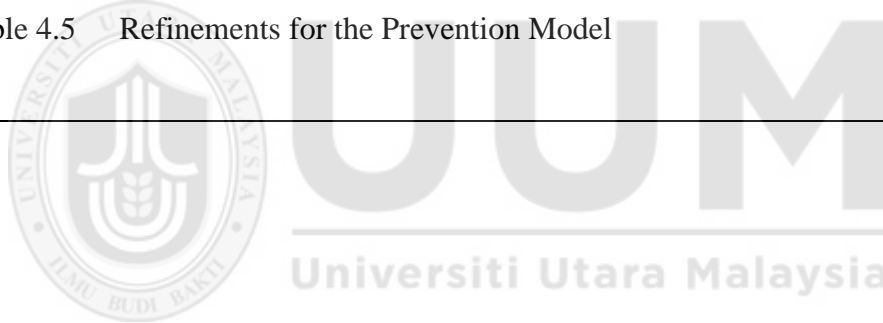
CHAPTER TWO: LITERATURE REVIEW 11

2.1 Related Theories.....	11
2.1.1 Work System Theory.....	11
2.1.2 Theory of Reasoned Action.....	13
2.1.3 Unified Theory of Acceptance and Use of Technology (UTAUT).....	15
2.2 Related Concepts.....	17
2.2.1 IS Project	17
2.2.2 IS Project Management	17
2.2.3 Implementation Phase of Information System Project.....	18
2.2.4 The Definition of Failure.....	18
2.2.5 Hospital Information System.....	19
2.2.6 Change Management	20

2.3	Related Models	22
2.3.1	Lewin's Change Management Model.....	22
2.3.2	Kotter's Change Management Model.....	24
2.3.3	Prosci's ADKAR Change Management Model	26
2.3.4	Comparison of the Three Change Management Models	28
2.4	Related Works	29
2.4.1	Factors Influencing the Success/Failure of IS Projects Implementation ...	30
2.4.2	Change Management Success Stories	34
2.5	Summary	36
CHAPTER THREE: METHODOLOGY		37
3.1	Theoretical Study	38
3.2	Research Design and Instrumentation	38
3.3	Data Collection.....	39
3.4	Prevention Model Design.....	41
3.5	Model Evaluation	42
3.6	Summary	44
CHAPTER FOUR: FINDINGS AND DISCUSSION.....		45
4.1	Critical Failure Factors (CFFs) of IS Projects Implementation	45
4.2	The Proposed CM-Based Prevention Model.....	69
4.3	Model Evaluation	75
4.4	Summary	85
CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS.....		86
5.1	Conclusion.....	86
5.2	Limitation of the Study	87
5.3	Future Work Recommendation	88
5.4	Summary	88
REFERENCES.....		90

LIST OF TABLES

Table	Page
Table 1.1 Software Projects Performance by Standish Group International	3
Table 2.1 Factors Influencing the Success/Failure of IS Projects Implementation	33
Table 3.1 Respondents' Profile	40
Table 3.2 Domain Experts' Profile	42
Table 3.3 Summary of Research Activities	43
Table 4.1 Human Issues	49
Table 4.2 Technology & Infrastructure Issues	57
Table 4.3 Software Limitations	60
Table 4.4 Support Issues	64
Table 4.5 Refinements for the Prevention Model	83



LIST OF FIGURES

Figure	Page
Figure 1.1 McKinsey-Oxford Study on the Performance of IT Projects	4
Figure 2.1 The Work System Framework	12
Figure 2.2 Schematic Diagram of UTAUT	15
Figure 2.3 Components of Project Management Plan	20
Figure 2.4 Lewin's Three-Stage Process of Change	22
Figure 2.5 Kotter's Change Management Model	24
Figure 2.6 Prosci's ADKAR Model	27
Figure 3.1 Flow of Research Activities	37
Figure 3.2 Conceptual Design of Prevention Model	41
Figure 4.1 Categories for CFFs of IS Projects Implementation	49
Figure 4.2 The Proposed Prevention Model for IS Projects Implementation Failure	69
Figure 4.3 CM Elements in Pre-Implementation Phase	70
Figure 4.4 CM Elements in During-Implementation Phase	73
Figure 4.5 CM Elements in Post-Implementation Phase	74
Figure 4.6 CM Elements in Post-Implementation Phase (Refinement)	83
Figure 4.7 The CM-Based Prevention Model for IS Projects Implementation Failure in Malaysia Government Hospitals	84
Figure 4.8 CM elements incorporated into the sub-phases of Implementation phase	84

LIST OF APPENDICES

Appendix		Page
Appendix I	Interview Guide for Data Collection	xi
Appendix II	Interview Guide for Model Evaluation	xiv
Appendix III	Gantt Chart of Research Activities	xvi
Appendix IV	Action Plan for CM-Based Prevention Model for IS Projects Implementation Failure	xvii



CHAPTER ONE

INTRODUCTION

This chapter explains the overview of the study, problem statement, research questions, research objectives, significance of the study, contributions and the scope of the study.

1.1 Overview of the Study

Malaysian Government has adopted ICT as an enabler in providing a better service to the public across various departments and agencies. This effort not only has invested a big amount of money on hardware and infrastructure, but also on application development in order to manage information efficiently and effectively.

In managing information to offer a better quality of health to the public, a variety of information system (IS) applications have been introduced in Malaysian government hospitals which covers several aspects of work processes. However, IS implementation in hospital is very challenging because hospital is a very sensitive environment which deals with patient's life (Abouzahra, 2011). There are numerous systems and devices that the medical practitioners (e.g. doctors, nurses, radiologist, scientists) need to work with, while the integration between the systems is very important because the failure may result in serious harm to patients as in providing suitable treatment and prescribing precise medicine to the patient (Abouzahra, 2011).

Some of the applications that have been implemented in hospitals are Teleconsultation (TC), Hospital Information System (HIS), Pharmacy Information

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